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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,261	10/14/2003	Frank D. Egitto	END92000181US2	4016
23122	7590	06/30/2005	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			TRAN, THAO T	
			ART UNIT	PAPER NUMBER
			1711	
DATE MAILED: 06/30/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/685,261

Applicant(s)

EGITTO ET AL.

Examiner

Thao T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-23,36 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-23,36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/27/2005 has been entered.
2. Claims 18-24 and 36-37 are currently pending in this application. Claims 1-17, 25-35, and 38-39 have been canceled.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 18-22 and 36-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Berger et al. (US Pat. 6,528,145).

The applied reference has a common Assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any

invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Berger teaches a composite structure, comprising in order: a substrate 20; a sealing layer 32; a ceramic-filled polymeric layer or a polymer-filled ceramic layer 98; and surface layer 102. The sealing layer and surface layer can be made of polyimides or epoxy resins; and the ceramic filler can be SiO₂ (see Figs. 11-12; col. 6, ln. 48-49; col. 7, ln. 13-14; col. 9, ln. 33-43; col. 11, ln. 63 bridging col. 12, ln. 4, col. 13, ln. 66-67). Berger teaches the composite structure further comprising an adhesive layer interposed between composite layers (see col. 9, ln. 65-67), the substrate being an integrated circuit board, and the composite structure is attached to a chip carrier (see col. 1, ln. 28-36).

Berger further teaches the surface layer containing ceramic (see col. 9, ln. 25-27), wherein the ceramic material can be silica in particle form (see col. 6, ln. 47-54), which are the same particles as disclosed in the instant specification. Hence, the silica particles used in Berger would inherently have the same thermally and electrically insulating properties.

5. Claims 18-23 and 36-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Vargo et al. (US Pat. 6,232,386).

Vargo teaches a composite structure, comprising a polymer layer 46 coated with a metal oxide layer 47, which in turn is bonded to another polymeric layer 48 (see Fig. 3; col. 35, ln. 57-63; col. 36, ln. 1-17). Vargo further teaches the polymers in layer 46 and layer 48 to be polyimides, polysiloxanes, polyalkylenes, or polyurethanes (see col. 7, ln. 53-65; col. 35, ln. 57-63) and the metal oxide layer to be a network of silicon oxide or a pure metal oxide layer (see col. 5, ln. 52-58; col. 14, ln. 16-30); and that the surface of a polymer layer is treated with an

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organosilane coupling (adhesive layer) (see col. 28, ln. 32-48). Vargo further teaches the composite to be used to make electrical substrate materials for forming integrated circuit chip carriers (see col. 36, ln. 44-47; col. 36, ln. 66 bridging col. 37, ln. 6).

Since Vargo teaches the metal oxide layer to be a network of silicon oxide, the layer would be consisting essentially of silicon oxide. And the metal oxide is in particulate form (see col. 2, ln. 7-9).

Response to Arguments

6. Applicant's arguments filed 3/25/2005 have been fully considered but they are not persuasive.

In the Final rejection of 1/25/2005, paragraph 4, claims 18-23 were inadvertently left out. They are now included in the rejection, under 35 U.S.C. 102(e) as being anticipated by Berger et al. (US Pat. 6,528,145).

In response to Applicants' arguments that Vargo does not teach layer 46 to be polyimide, but rather a halopolymer, it is hereby noted that Vargo does teach the use of non-halopolymers, such as polyimide (see col. 7, ln. 42-55). With respect to Applicants' arguments that Vargo does not teach the use of silicon dioxide as a metal oxide in the conductive or semiconductive layer 47, it is hereby noted that Vargo does teach the metal oxide layer as a network of silicon oxide or silica (see col. 14, ln. 13-30). Thus, Vargo does teach the presently claimed invention.

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Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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June 24, 2005

Thao Tran

**THAO T. TRAN
PATENT EXAMINER**